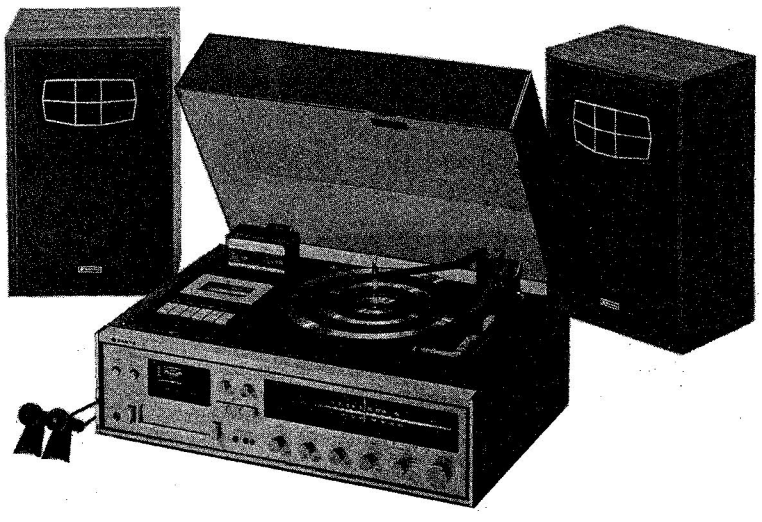
SANYO

SANYO
STEREO MUSIC SYSTEM
GXT5200K
SERVICE MANUAL



A PRODUCT OF SANYO ELECTRIC CO., LTD.

SPECIFICATIONS

GENERAL

Transistors:

2SC668E x 2	FM RF Amp., FM Mix.
2SC930D x 2	FM OSC., AM Convertor
2SC536D x 2	FM AM Amp. Meter Drive
2SC536E x 4	Rec. Head Drive x 4
2SC1648S x 2	Pre Amp. x 2
2SC1317R x 4	Bias Oscillator
2SC1226R x 1	8 Track Motor Stop
2SA564R x 1	8 Track Motor Control

Diodes:

1S188AM x 5	FM Limiter, AM Limiter, AM AGC Rectifier (Meter drive) x 2
1S188FM x 2	FM Discriminator
10D1 or SM1 x 7	Rectifier x 5, Motor control, Plunger
SLP24 x 1	FM Stereo Ind.
1S1588 x 1	Motor control
BZ-162 x 1	Voltage Regulator

SCR:

M21C x 1	Motor control

IC:

LA1201 x 1	FM & AM IF Amp.
HA1156 x 1	MPX (PLL)
LA3155 x 2	Tape Head Amp. (Cassette & 8 Track)

FET:

SKT013 x 1	Power Amp.
Power source:	120V AC 50 Hz
Dimension:	(W) 528 x (D) 395 x (H) 132 mm
Power consumption:	75W
Weight:	Center unit 14.1 Kg Speaker 2.8 Kg

TUNER SECTION

Frequency range:	AM 530–1605KHz FM 88–108 MHz
Intermediate frequency: ..	AM 460 KHz FM 10.7 MHz
Sensitivity:	AM 400 μV/m FM 15.8 μV
Signal to noise ratio:	AM 44 dB FM 50 dB
FM MPX separation:	20 dB

AMP SECTION

Output power:	10 W/ch Watts (10% THD)
Frequency response:	30 – 30 K Hz
Power bandwidth:	70 – 25 K Hz
Signal to noise ratio:	60 dB
Output terminal:	
Speaker impedance	8 Ohms
Tape play	250 mV 5.6 K ohm impedance
Input terminal:	
Tape rec.	250 mV 250 K ohm impedance

PLAYER SECTION

Turn table speed:	33-1/3, 45, 78 rpm
Pick up system:	Ceramic/Stereo Cartridge
Wow & flutter:	0.12%
Turn table:	10-1/2 inch diameter

CASSETTE SECTION

Recording system:	AC Bias
Erasing system:	AC Erasing
Tape speed:	1-3/4 inch/sec
Wow & flutter:	0.25%

SPEAKER SECTION

Speaker size:	6.5φ, 2.4φ inch diameter
Input power:	10 Watts
Dimension	(W) 260 x (D) 180 x (H) 410 mm
Weight:	2.8 Kg

8-TRACK TAPE PLAYER SECTION

Recording system:	AC Bias
Erasing system:	AC Erasing
Tape speed:	3-1/2 inch/sec
Wow & flutter:	0.3%

ALIGNMENTS

AM IF and RF Alignment

STEP	MODE	SIGNAL INPUT	FREQUENCY AND MOUDULATION OF SSG	DIAL SETTING OF RADIO	COMPONENTS TO BE ADJUSTED FOR MAX. OUTPUT
1	MW	Thru Loop Antenna	455 KHz 30%	Lower end	IFT. T-7, T-8, T-9
2	MW		515 KHz 30%	Lower end	OSC coil L-6
3	MW		1650 KHz 30%	Upper end	OSC trimmer CT-5
4	MW		600 KHz 30%	600 KHz	Ant. coil L-5
5	MW		1400 KHz 30%	1400 KHz	Ant. trimmer CT-4

Repeat step 4 and 5.

SVR-1 : Tp 1~Tp2 V=0.7V

FM IF Alignment

STEP	ALIGNMENT FREQUENCY	TEST EQUIPMENT CONNECTION	ADJUSTMENT
1	10.7MHz	Connect sweep generator to CT-3 and oscilloscope to test point Tp-3	Tune for max. gain and symmetry of response curve (Fig. 1)
2	10.7MHz	Connect sweep generator to CT-3 and oscilloscope to test point Tp-4	Tune for symmetrical "S" curve (Fig. 2)

Fig. 1

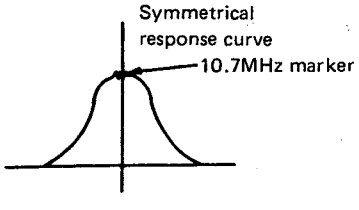
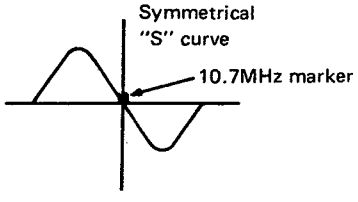


Fig. 2

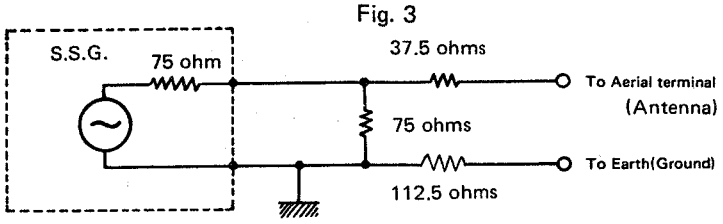


FM RF Alignment

STEP	SIGNAL INPUT	FREQUENCY AND MODULATION OF SSG	DIAL SETTING OF RADIO	COMPONENTS TO BE ADJUSTED FOR MAX. OUTPUT
1	Thru dummy Ant. Fig. 3	87.5MHz 30%	Lower end	OSC coil L-4
2		110MHz 30%	Upper end	OSC trimmer CT-3
3		90MHz 30%	90MHz	RF coil L-2
4		90MHz 30%	90MHz	Ant. coil L-1
5		106MHz 30%	106MHz	RF trimmer CT-2
6		106MHz 30%	106MHz	ANT trimmer CT-1

Repeat STEP 3, 4, 5 and 6.

Fig. 3



FM MPX Adjustment

SUBJECT	COMPONENT TO BE ADJUSTED	TEST POINT	TEST INSTRUMENT
Frequency Adjustment (19,000 KHz ± 50 KHz)	SVR 101	TP-5 (MPX P.C.B.)	Frequency Counter Input Impedance 100 K ohm

RECORDER ADJUSTMENT

CASETTE RECORDER SECTION

SUBJECTS	INPUT SIGNALS	ADJUST POINTS	MEASURE POINTS	ADJUSTMENT VALUES AND TEST INSTRUMENTS
Bias current	Not required	SVR-451 SVR-452	R411 and Common ground R511 and Common ground	3.6mV by V.T.V.M.
Playback output level	Standard Cassette Tape, which has been recorded by 1KHz −10dB level	SVR-411 SVR-511	Power output terminal (Close 8 ohms load or speaker)	5V (rms) by V.T.V.M.

8-TRACK RECORDER SECTION

SUBJECTS	INPUT SIGNALS	ADJUST POINTS	MEASURE POINTS	ADJUSTMENT VALUES AND TEST INSTRUMENTS
Bias current	Not required	SVR-661	R665 and Common ground	7.5mV by V.T.V.M.
Playback output level	Standard 8-Track Tape, which has been recorded by 1KHz −10dB level	SVR-611 SVR-711	Power output terminals (Close 8 ohms load or speaker)	3V (rms) by V.T.V.M.

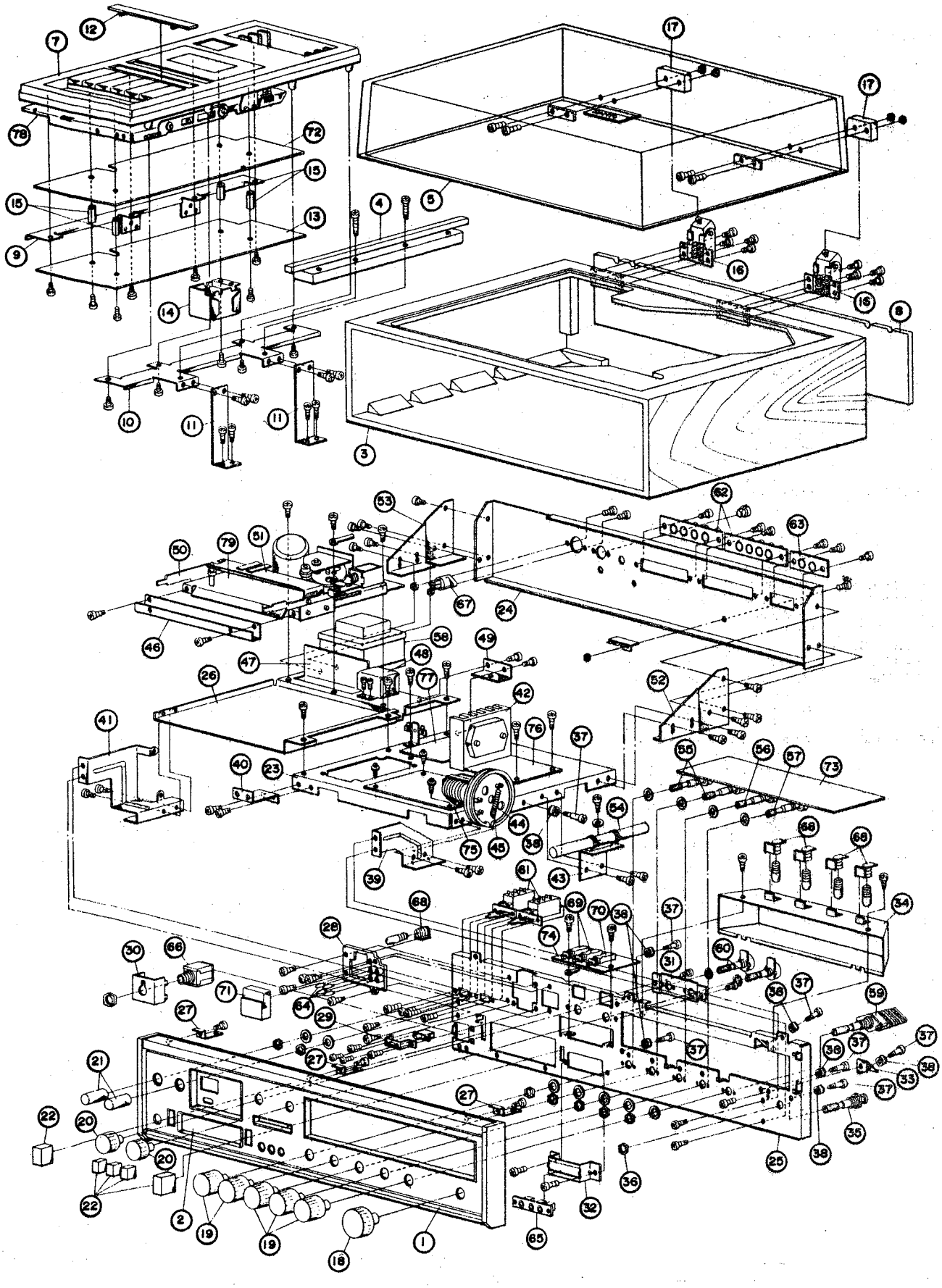
PARTS LIST

NOTE: The difference of Parts Lists between General GXT 5200K and for Switzerland version are only Package and Speaker Box assembly.

Key No.	Part No.	Description	Q'ty
PACKAGE PARTS			
	R-4771457	Instruction book	1
	R-4072484	Individual carton	1
	R-4170537	Styro-foam cusion, Unit left	1
	R-4170538	Styro-foam cushion, Unit right	1
	R-357163	Polyethylene bag, Unit	1
		Polyethylene bag, 240x320, Instruction book	1
		Polyethylene bag, 100x240, AC cord	1
	R-477945	Tag, Power	1
	R-4770194	Attention sheet, Stabilizer	1
	R-357194	Holder, Stylus	1
	R-357262	Sheet, Dust cover	1
	R-357228	Polyethylene bag, Dust cover	1
		Polyethylene bag, 50x50, Pulley	1
		Polyethylene bag, 100x240, Microphone	1
	R-357086	Polyethylene bag, Speaker box	2
	R-4170486	Styro-foam cushion, Speaker box	2
	R-3072676	Protector, Unit — Speaker box	2
PACKAGE PARTS FOR SWITZERLAND			
	R-4771457	Instruction book	1
	R-4072842a	Individual carton, Unit	1
	R-4170537	Styro-foam cushion, Unit left	1
	R-357163	Polyethylene bag, Unit	1
		Polyethylene bag, 240x320, Instruction book	1
		Polyethylene bag, 100x240, AC cord	1
	R-477945	Tag, Power	1
	R-4770194	Attention sheet, Stabilizer	1
	R-357194	Holder, Stylus	1
	R-357262	Sheet, Dust cover	1
	R-357228	Polyethylene bag, Dust cover	1
		Polyethylene bag, 50x50, Pulley	1
		Polyethylene bag, 100x240, Microphone	1
	R-357086	Polyethylene bag, Speaker box	4
	R-4170486	Styro-foam cushion, Speaker box	4
	R-3072676	Protector, Unit — Speaker box	2
	R-4072843	Individual carton SP BOX	1
ACCESSORIES			
	R-S8574-b	Plug Adaptor AC, Siemens, Pitch 19mm	1
	R-S8575-b	Plug Adaptor, A.C., England, Pitch 16.7mm	1
	R-S07137-1	Microphone, Remote switch	1
	R-S07138	Microphone	1
	R-S07045	Cassette tape, C-30	1
	R-S07157	8 TR tape	1
	R-S870311	Head cleaner	1
CABINET & APPEARANCE PARTS			
1	R-A71473	Front panel assembly	1
2	R-2670957	Door, 8 Tr	1
	R-157186a	Shaft, Door	1
	R-157361	Coil spring, Door	1
3	R-A71118	Cabinet assembly	1
		Washer, Lock, 4.5x16x0.8 Cabinet — Chassis	12
4	R-467136	Fix plastic board, Cassette panel	1
		Tap. Screw, Pan Hd., 3x20	2
		Washer, Flat, 3.3x10x1	2
	R-3970597	Fix plastic board, Dust cover front	2
		Screw, Flat Hd. Wood, 2x8 Fix plastic board — Cabinet	2
	R-4770191	Attention sheet, Power supply	1
5	R-A71027	Dust cover assembly	1
7	R-A71474	Panel assembly, Cassette	1
8	R-4072500	Rear cover	1
		Screw, Round Hd. Wood, 3.1x10 Rear cover — Cabinet	8
	R-127957	Metal bracket, Cassette panel left	1
6		Tap. Screw, Pan Hd., 3x10 Metal bracket — Cassette panel	4
10	R-127958	Metal bracket, Cassette panel right	1
		Tap. Screw, Pan Hd., 3x10 Metal bracket — Cassette panel	4

Key No.	Part No.	Description	Q'ty
CABINET & APPEARANCE PARTS			
11	R-127973	Metal bracket, Cassette panel — Chassis	2
		Tap. Screw, Pan Hd., 3x6 Metal bracket — Metal bracket	4
		Tap. Screw, Pan Hd., 3x8 Metal bracket — 8 Tr chassis	4
12	R-327305	Fix plastic board, Azimuth	1
13	R-127726	Shield plate, Cassette P.C.B.	1
		Screw, Pan Hd., 2.6x4 Shield plate — Cassette mechanism	4
14	R-117739c	Shield case, Cassette Bias Osc.	1
		Tap. Screw, Pan Hd., 3x8 Shield case — Metal bracket	1
	R-4170364	Sheet, Cassette Bias Osc.	1
	R-237133	Metal bracket, Cassette slide switch	1
15	R-247284	Special screw, Shield plate mtg.	4
	R-127779a	Metal bracket, Cassette leaf switch	1
16	R-S870629a	Hinge assembly	2
		Screw, Pan Hd., 4x20	4
		Nut, Hex Hd., M4	4
		Washer, Flat., 4x10x0.8 Hinge assembly — Dust cover	4
		Tap. Screw, Pan Hd., 3x10 Hinge assembly — Cabinet	8
17	R-3970778	Spacer, Dust cover — Hinge assembly	2
	R-3970784	Spacer, Cabinet — Hinge assembly	2
18	R-3970758a	Knob, Tuning	1
19	R-3970790	Knob, FUN/VOL/BASS/TREBLE/BAL.	5
20	R-3970760	Knob, REC./VOL.	2
21	R-3970776	Knob, POWER/2-4 CHL	2
22	R-3970802	Knob, 8 TR (F.F/ALL-ON/REC/PAUSE)	5
		Mask sheet, 10x5x0.3t, Panel 8 TR	2
	R-4771051	Label, Caution	1
		Tap. Screw, Pan Hd., 3x16	3
		Washer, Flat. 3.3x10x1 Panel mtg.	3
SPEAKER BOX ASSEMBLY PARTS			
	R-A71120	Speaker box assembly	2
	R-S870680	Speaker box	(2)
	R-467142	Buffle plate	(2)
	R-437232	Net	(2)
	R-1270094	Metal bracket	(2)
	R-327263a	Fix plastic board, Badge	(2)
	R-2670428	Badge	(2)
	R-4072459	Rear cover	(2)
	R-S07158	Speaker, 8 ohm 10W	2
	R-S37039-1	Speaker cord, L=2800	2
	R-S870690	Tweeter, Speaker assembly	2
C908, 909		Electrolytic 3.3mfd/35V	(2)
SPEAKER BOX ASSEMBLY FOR SWITZERLAND			
	R-A71120	Speaker box assembly	4
	R-S870680	Speaker box	(4)
	R-467142	Buffle plate	(4)
	R-437232	Net	(4)
	R-1270094	Metal bracket	(4)
	R327263a	Fix plastic board, Badge	(4)
	R-2670428	Badge	(4)
	R-4072459	Rear cover	(4)
	R-S07158	Speaker, 8 ohm 10W	4
	R-S37039-1	Speaker cord, L=2800	2
	R-S870690	Speaker assembly, Tweeter	4
	R-S07177	Speaker, 8 ohm 20W	(4)
	R-327135	Horn	(4)
	R-327136	Frame	(4)
C908, 909		Electrolytic 3.3mfd/35V	(4)
	R-S37039-2	Speaker cord, L=10.000	2
		Screw round Hd. wood 3.1x10	8
		Nut hex. Hd. 4	4
		Washer flat Box — Tweeter	4
		Screw, round Hd. wood 3.1x10 Box — Rear cover	32
		Nut, Hex. Hd. with washer 3 speaker	16
		Speed nut 2.6 badge	8

EXPLODED VIEW (CABINET)



PARTS LIST

Key No.	Part No.	Description	Q'ty
		CHASSIS MECHANICAL PARTS	
23	R-127809a	Chassis, Center	1
24	R-127811a	Chassis, Back	1
		Tap. Screw, Pan Hd., 3x8 Center chassis – Back chassis	2
25	R-127950	Chassis, Front	1
		Tap. Screw, Pan Hd., 3x10 Front chassis – Front panel	6
26	R-127968	Chassis, 8 TR	1
		Tap. Screw, Pan Hd., 3x8 Back chassis – 8 TR chassis	2
	R-387495	Dial plate	1
		Tap. Screw, Pan Hd., 3x8 Dial plate – Front chassis	1
27	R-1170670	Metal bracket, Panel mtg.	3
28	R-3970791	Holder, Indicator channel lamp	1
		Tap. Screw, Pan Hd., 3x8 Holder – Front chassis	3
29	R-127959	Metal bracket, Indicator R/L switch mtg.	1
		Tap. Screw, Pan Hd., 3x6 Metal bracket – Front chassis	2
30	R-127960	Metal bracket, Headphone jack mtg.	1
31	R-127961	Metal bracket, Rec. Vol. mtg.	1
		Tap. Screw, Pan Hd., 3x8 Metal bracket – Front chassis	2
32	R-127962	Metal bracket, Mic jack mtg.	1
		Tap. Screw, Pan Hd., 3x6 Metal bracket – Front chassis	2
33	R-127963	Metal bracket, Pulley shaft mtg.	1
		Screw, Pan Hd., 3x6 Metal bracket – Chassis	1
34	R-127964	Reflection plate, Dial lamp	1
		Tap. Screw, Pan Hd., 3x6 Reflection plate – Front chassis	2
35	R-S870024a	Shaft assembly, Tuning	1
36	R-117983	Nut, Tuning shaft mtg.	1
37	R-147054-2	Pulley shaft	7
38	R-325017	Pulley	7
	R-S870587	Pointer assembly	1
	R-437137	Back plate, Indicator R/L switch	1
39	R-127965	Metal bracket, Front chassis – Center chassis	1
		Tap. Screw, Pan Hd., 3x6 Metal bracket – Front chassis	4
40	R-127966	Metal bracket, Front chassis – Center chassis	1
		Tap. Screw, Pan Hd., 3x6 Metal bracket – Front chassis	4
41	R-127967	Metal bracket, Front chassis – 8 TR chassis	1
		Tap. Screw, Pan Hd., 3x6 Metal bracket – Front chassis	4
42	R-277330	Heat sink, Amp. P.C.B.	1
		Screw, Pan Hd., 3x8	2
		Washer, External Tooth Lock, M3 Heat sink mtg.	2
43	R-127337b	Metal bracket, Antenna mtg.	1
		Tap. Screw, Pan Hd., 3x6 Metal bracket – Chassis	2
44	13103002204020	Drum assembly	1
		Screw, Pan Hd., 3x8 Drum mtg.	2
		Dial cord strings, L=1390mm	1
45	R-157189	Coil spring, Dial cord strings – Drum	1
	R-157178	Spring, Antenna lead	3
	R-4771255	Label, Connector, 7U	1
	R-4771256	Label, Connector, 7V	1
	R-4771257	Label, Connector, 7W	1
	R-4771258	Label, Connector, 7X	1
	R-4771259	Label, Connector, 8P	1

Key No.	Part No.	Description	Q'ty
		CHASSIS MECHANICAL PARTS	
46	R-127969	Metal bracket, 8 TR mechanism front mtg.	1
		Tap. Screw, Oval Hd., 3x6 Metal bracket – Front chassis	4
	R-127970	Metal bracket, 8 TR mechanism rear mtg.	1
		Tap. Screw, Pan Hd., 3x6 Metal bracket – 8 TR chassis	4
47	R-127838a	Metal bracket, Power trans. mtg.	1
		Screw, Pan Hd., 4x8 Metal bracket – Chassis	2
	R-4170446	Protector, Power trans.	2
	R-127971	Metal bracket, 8 TR P.C.B. mtg.	1
48	R-117739c	Shield case, 8 TR OSC	1
		Tap. Screw, Pan Hd., 2.6x8 Shield case mtg.	1
	R-4170364	Sheet, 8 TR OSC	1
49	R-127816a	Metal bracket, Chassis – Chassis	1
		Tap. Screw, Pan Hd., 3x6 Metal bracket – Chassis	2
52	R-127812a	Metal bracket, Back chassis – Center chassis	1
53	R-127813a	Metal bracket, Back chassis – 8 TR chassis	1
		Tap. Screw, Pan Hd., 3x6 Metal bracket – Chassis	2
	R-357035	Bushing, AC cord	1
	R-367148	Insulator, FM antenna	1
	R-1170240	Lead restrainer, FM antenna	1
	R-4770263a	Licenced label, 8 Track	1
	R-447843	Lamp holder, Stereo	1
		Mold plane, 10x40x5, Indicator	2
		Tap. Screw, Pan Hd., 3x6 Shaft mtg. (8 TR)	2
		Washer, Flat, 3.3x10x1 Shaft mtg. (8 TR)	2
		Tap. Screw, Pan Hd., 3x8 P.C.B. mtg.	16
		Tap. Screw, Pan Hd. with Washer, 3x8 P.C.B. mtg.	5
		Tap. Screw, Pan Hd., 3x6 P.C.B. mtg.	1

Key No.	Schematic Location	Part No.	Description	Q'ty
			CHASSIS ELECTRICAL PARTS	
54	L5	R-S870718	Antenna coil assembly	1
			Tap. Screw, Pan Hd. with Washer, 3x8 Antenna coil assembly mtg.	1
55	VR201, 202	R-R1167030	Variable resistor, 50K-A, Bass Treble	2
56	VR203	R-R1167032	Variable resistor, 50K-M, N, Balance	1
57	VR204	R-R1167031	Variable resistor, 50K-B, Volume	1
58		R-W77247	Power transformer	1
			Tap. Screw, Pan Hd. with Washer "A", 5x8 Power transformer – Metal bracket	4
59		R-S47183	Rotary swtich, Function	1
60	VR901, 902	R-R1167025	Variable resistor, 10K-B, Rec. level	2
		R-S3708-1	AC cord, L=2000mm	1
		R-S1733	Solderless connector	4
61		R-S47194	Push switch, Power 2/4 CHL	2
			Screw, Pan Hd., 3x6 Push switch mtg.	4
62		R-S2780	Jack, SP AUX/REC	2
			Tap. Screw, Pan Hd., 3x8 Jack mtg.	4
63		R-S1790	Terminal, FM Antenna	1
			Tap. Screw, Pan Hd., 3x8 Terminal mtg.	2
64	PL6,7,8,9	R-S1763	Pilot lamp, Program, 6V 21mA	4
65		R-S27117	Jack, Microphone	1

PARTS LIST

Key No.	Schematic Location	Part No.	Description	Q'ty
CHASSIS ELECTRICAL PARTS				
66		R-S2736	Jack, Headphone	1
		R-S27147-2	Plug assembly, Changer power, L=400	1
		R-S2771	Socket, 7P, Cassette 8 TR	2
		R-S2774	Plug, Power supply select	1
		R-S2794	Socket, Power supply select	1
67	PL901, 902, 903, 904, 905	R-S27050	Socket, Pilot lamp	5
68		R-S17069	Pilot lamp, Dial Indicator, 8V 25mA	5
		R-S3741	3P lug board	3
			Washer, External Tooth Lock, M3	1
			Tap. Screw, Pan Hd., 3x8 3P lug mtg.	1
		R-127500	Oval lug	3
		R-12004	Oval lug, Changer connector	1
		R-S37086-1	Cord assembly, L=700, Player	1
		R-377039-5	Housing, Cassette	1
		R-257099	Terminal, Housing	1
		R-257098	Terminal, Housing	4
		R-S2770	Plug, 7P	1
		R-377039-8	Housing, 8P, 8TR	2
		R-257099	Terminal, Housing	2
		R-257098	Terminal, Housing	14
		R-S2770	Plug, 7P	1
		R-S37081	7P lug	2
		R-12004	Oval lug	1
			Washer, zxternal Tooth Lock, M3	1
			Tap. Screw, Pan Hd., 3x8 Oval lug mtg.	1
69		R-S47160	Push switch, F/F ALL/ONE	2
70		R-S47161	Push switch, Program select	1
	L880	R-W1739a	Choke coil	1
	L881, 882	R-W1754	Choke coil	2
		R-377039-4	Housing, 4P, Meter switch	1
		R-377039-3	Housing, 3P, Meter	1
		R-257099	Terminal, Housing	2
		R-257098	Terminal, Housing	4
71		R-S57039	Indicator	1
	S903	R-S47189	Slide switch	1
			SEMICONDUCTORS	
	D803		Diode, 10D-1 or SM-1	1
	D101		LED, SLP-24	1
			RESISTORS	
			(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
	R904, 905		56 K ohm	2
	R908, 909		12 K ohm	2
	R881		6.8 ohm	1
	R880		390 ohm	1
	R910		Carbon, 820 ohm, ±10%, 1/2W	1
	R902, 903, 907		Metal oxide film, 100 ohm, ±10%, 2W	3
	R551		Solid, 47 ohm, ±10%, 1/2W	1
	R882		Metal oxide film, 10 ohm, ±10%, 3W	1
			CAPACITORS	
	C551		Ceramic, 0.047 mfd, +80 –20%, 50V	1
	C902, 903		Ceramic, 150 pF, ±10%, 50V	2
	C904		Mylar, 0.047 mfd, ±20%, 1000V	1
	C664		Mylar, 0.01 mfd, ±10%, 50V	1
	C901		Electrolytic 16V/10mfd	1
	C552		Electrolytic 16V/220mfd	1
	C880		Electrolytic 25V/47mfd	1
	C804		Electrolytic 25V/470mfd	1
	C805		Electrolytic 16V/1000mfd	1

Schematic Location	Part No.	Description	Q'ty
TUNER (R.F.) CIRCUIT BOARD			
	R-A71475	Circuit board assembly,TUNER	1
	R-417785b	Printed circuit board	1
L1	R-W2764	Antenna coil	1
L2	R-W9703	VHF coil	1
L3	R-W9018	VHF coil	1
L4	R-W9701	VHF coil	1
L6	R-W8775	OSC coil	1
CV1,2,3,4,5	R-C1712	Variable capacitor	1
CT1,2			
CT3	R-C0716	Trimmer	1
CT4,5	R-C0046	Trimmer	1
T1	R-W5T757	IF transformer	1
T2	R-W5T758	IF transformer	1
T3	R-W5T759	IF transformer	1
T4	R-W5T760	IF transformer	1
T5	R-W5T761	IF transformer	1
T6	R-W5T762	IF transformer	1
T7	R-W5T763	IF transformer	1
T8	R-W5T764	IF transformer	1
T9	R-W5T765	IF transformer	1
SVR1	R-R110704	Present resistor, 50K-B	1
	R-237093	Eyelet	8
	R-235128	Eyelet	2
	R-S1803	Terminal	3
		SEMICONDUCTORS	
TR1,2		Transistor, 2SC668 E	2
TR3,4		Transistor, 2SC930D	2
IC1		Integrated circuit, LA1201	1
D1		Diode, 1S953 or 1S1588	1
D2		Diode, 1S1588	1
D3,6		Diode, 1S188 AM	2
D4,5		Diode, 1S188 FM	2
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R29		100 ohm	1
R22		120 ohm	1
R8		150 ohm	1
R28		270 ohm	1
R4		820 ohm	1
R18		1.5 K ohm	1
R31,32		1 K ohm	2
R1		1 K ohm	1
R21		1.2 K ohm	1
R23		1.5 K ohm	1
R35		1.8 K ohm	1
R10,19		2.2 K ohm	2
R16		2.7 K ohm	1
R33,34		5.6K ohm	2
R20		4.7 K ohm	1
R36		5.6 K ohm	1
R37		15 K ohm	1
R12		220 K ohm	1
R38		820 ohm	1
R7		Carbon, 1.5 K ohm, ±10%, 1/8W	1
R13		Carbon, 56 ohm, ±10%, 1/8W	1
R30		Carbon, 120 ohm, ±10%, 1/8W	1
R9		Carbon, 560 ohm, ±10%, 1/8W	1
R24		Carbon, 680 ohm, ±10%, 1/8W	1
R11		Carbon, 2.2 K ohm, ±10%, 1/8W	1
R5		Carbon, 3.3 K ohm, ±10%, 1/8W	1
R27		Carbon, 4.7 K ohm, ±10%, 1/8W	1
R26		Carbon, 6.8 K ohm, ±10%, 1/8W	1
R6		Carbon, 8.2 K ohm, ±10%, 1/8W	1
R3, 25		Carbon, 10 K ohm, ±10%, 1/8W	2
R2		Carbon, 82 K ohm, ±10%, 1/8W	1
R14		Carbon, 33 K ohm, ±10%, 1/8W	1
R15,17		Carbon, 5.6 K ohm, ±10%, 1/8W	2
R39		Solid, 680 ohm, ±10%, 1/2W	1
		CAPACITORS	
C8		Ceramic, 1 pF, ±10%, 50V	1
C15		Ceramic, 5 pF, ±10%. 50V	1
C12,23		Ceramic, 0.0047 mfd, ±10%, 60V	2
C7,20,46		Ceramic, 10 pF, ±10%, 50V	3
C6		Ceramic, 15 pF, ±10%, 50V	1

PARTS LIST

Schematic Location	Part No.	Description	Q'ty
TUNER (R.F.) CIRCUIT BOARD			
C17		Ceramic, 18 pF, ±10%, 50V	1
C24		Ceramic, 25 pF, ±10%, 50V	1
C35		Ceramic, 30 pF ±10%, 50V	1
C41		Ceramic, 50 pF, ±10%, 50V	1
C2		Ceramic, 100 pF ±10%, 50V	1
C42,43		Ceramic, 200 pF, ±10%, 50V	2
C22		Ceramic, 0.01 mfd, ±10%, 50V	1
C9		Ceramic, 500 pF, ±10%, 50V	1
C45		Ceramic, 0.001 mfd, ±10%, 50V	1
C5		Ceramic, 3 pF, ±0.25pF, 50V	1
C14,32		Ceramic, 2 pF, ±0.25pF, 50V	2
C16		Ceramic, 0.001 mfd, +80 −20%, 50V	1
C29,31,39		Ceramic, 0.01 mfd, +80 −20%, 50V	3
C3,30,37		Ceramic, 0.022 mfd, +80 −20%, 50V	3
C4,13,19, 21,28,33, 47,11		Ceramic, 0.047 mfd, +80 −20%, 50V	8
C50		Ceramic, 0.04 mfd, +80 −20%, 50V	1
C34		Mylar, 0.01 mfd, +20%, 50V	1
C27		Styrol, 200 pF, ±10%, 50V	1
C25		Styrol, 375 pF, ±5%, 50V	1
C40		Electrolytic 16V/470mfd	1
C10		Electrolytic 16V/47mfd	1
C38,48		Electrolytic 16V/10mfd	2
C36		Electrolytic 16V/1mfd	1
C44		Electrolytic 6.3V/4.7mfd	1
C49		Electrolytic 10V/100mfd	1
MAIN AMPLIFIER CIRCUIT BOARD			
	R-A71122	Circuit board assembly, AMP.	1
	R-4170515	Printed circuit board	1/2
	R-247493	Wirerap terminal	13
		SEMICONDUCTORS	
TR201,301		Transistor, 2SC1648 LN	2
IC201		Integrated circuit, STK013	1
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R219,319		4.7 ohm	2
R203		100 ohm	1
R213,313		390 ohm	2
R201,202		1.5 K ohm	2
R214,314		5.6 K ohm	2
R218,318		18 K ohm	2
R215,315, 217,317		220 K ohm	4
R211,311		120 K ohm	2
R216,316		390 K ohm	2
R212,312		820 K ohm	2
R276,376		1 K ohm	2
		CAPACITORS	
C220,320, 221,321		Ceramic, 500 pF, ±10%, 50V	4
C212,312		Ceramic, 100 pF, ±10%, 50V	2
C219,319		Mylar, 0.047 mfd, ±20%, 50V	2
C222,322		Mylar 0.0022 mfd ±20% 50V	2
C216,316		Electrolytic 25V/100mfd	2
C218,318		Electrolytic 10V/470mfd	2
C211,311, 213,313		Electrolytic 25V/1mfd	4
C214,314		Electrolytic 25V/1mfd	2
C202		Electrolytic 25V/100mfd	1
C215,315		Electrolytic 35V/10mfd	2
C217,317		Electrolytic 25V/470mfd	2
C201		Electrolytic 35V/100mfd	1
C203		Electrolytic 40V/220mfd	1
C204		Electrolytic 40V/100mfd	1

Schematic Location	Part No.	Description	Q'ty
CASSETTE CIRCUIT BOARD			
	R-A71123	Circuit board assembly, CASSETTE	1
	R-4170287a	Printed circuit board	1
L401,501	R-W1767	Bias trap	2
L402,502	R-W6724	Coil, 10mH	2
S401	R-S47155	Slide switch	1
SVR411, 511	R-R110723	Preset resistor, 100K	2
	R-237111	Eyelet, 1.6x3	12
		Eyelet, 2x3	8
		SEMICONDUCTORS	
TR401,501		Transistor, 2SC536 E	2
TC401		Integrated circuit, LA3155	1
		RESISTORS	
		(Resistors are carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R421, 521		560 ohm	2
R401, 402		220 ohm	2
R420, 520		1 K ohm	2
R422, 522		3.3 K ohm	2
R418, 518, 423, 523		22 K ohm	4
R424, 524		5.6 K ohm	2
R419, 519		100 K ohm	2
R407		1.5 K ohm	1
R411, 511		Carbon, 10 ohm, ±5%, 1/8W	2
R415, 515		Carbon, 220 K ohm, ±10%, 1/8W	2
R403		Carbon, 560 ohm, ±10%, 1/8W	1
R412, 512		Carbon, 220 ohm, ±10%, 1/8W	2
R404		Carbon, 330 ohm, ±10%, 1/8W	1
R414, 514		Carbon, 18 K ohm, ±10%, 1/8W	2
R417, 517, 416, 516		Carbon, 12K ohm, ±10%, 1/8W	4
R413, 513		Carbon, 120 K ohm, ±10%, 1/8W	2
		CAPACITORS	
C424, 524		Ceramic, 220 pF, ±10%, 50V	2
C416, 516		Ceramic, 100 pF, ±10%, 50V	2
C423, 523, 421, 521		Mylar, 0.0022 mfd, ±10%, 50V	4
C418, 518		Mylar, 0.015 mfd, ±10%, 50V	2
C414, 514		Mylar, 0.068 mfd, ±10%, 50V	2
C415, 515		Mylar, 0.01 mfd, ±10%, 50V	2
C422, 522		Mylar, 0.0082 mfd, ±10%, 50V	2
C420, 520		Styrol 300pF ±10%, 50V	2
C412, 512		Electrolytic 6.3V/47mfd	2
C411, 511		Electrolytic 10V/10mfd	2
C404		Electrolytic 16V/220mfd	1
C407		Electrolytic 16V/10mfd	1
C413, 513, 417, 517, 419, 519		Electrolytic 16V/1mfd	6
C402		Electrolytic 25V/100mfd	1
C401		Electrolytic 25V/220mfd	1
CASSETTE BIAS OSCILLATOR CIRCUIT BOARD			
	R-A71137	Circuit board assembly, Cassette OSC	1
	R-417322	Printed circuit board	1
L451	R-W8737	OSC coil	1
SVR451, 452	R-R11018	Present resistor, 250K	2
		SEMICONDUCTORS	
TR451, 452		Transistor, 2SC1317R	2
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R451		4.7 ohm	1
R452		3.9 K ohm	1
R453		12 K ohm	1
R454		1 ohm	1
R455		Solid, 56 ohm, ±10%, 1/2W	1

PARTS LIST

Schematic Location	Part No.	Description	Q'ty
CASSETTE BIAS OSCILLATOR CIRCUIT BOARD			
		CAPACITORS	
C451		Mylar, 0.01 mfd, ±10%, 50V	
C452		Mylar, 0.047 mfd, ±10%, 50V	
C453		Mylar, 0.0068 mfd, ±10%, 50V	
C454, 455		Styrol, 1800 pF, ±10%, 50V	
C405		Electrolytic 16V/100mfd	
8-TRACK AMPLIFIER CIRCUIT BOARD			
	R-A71124	Circuit board assembly, 8 TR Amp.	1
	R-4170522	Printed circuit board	1/2
L612, 712	R-W1767	Bias trap	2
L611, 711	R-W6724	Coil, 10mH	2
L601	R-Q1046	Choke coil, 40 μH	1
S601	R-W47149	Slide switch	1
SVR611, 711	R-R110705	Preset resistor, 50K	2
		Eyelet, 1.6x3	19
		SEMICONDUCTORS	
TR601, 701		Transistor, 2SC536E	2
IC601		Integrated circuit, LA3155	1
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R611, 711		22 ohm	2
R603, 604, 605		220 ohm	3
R601		560 ohm	1
R602		2.7 K ohm	1
R616, 716		10 K ohm	2
R617, 717, 615, 715		5.6 K ohm	4
R613, 713		120 K ohm	2
R614, 714		68 K ohm	2
R624, 724		47 ohm	2
R612, 712		Carbon, 100 ohm, ±10%, 1/8W	2
R623, 723		Carbon, 330 ohm, ±10%, 1/8W	2
R619, 719		Carbon, 56 K ohm, ±10%, 1/8W	2
R620, 720		Carbon, 82 K ohm, ±10%, 1/8W	2
R621, 721		Carbon, 330 K ohm, ±10%, 1/8W	2
R625, 725		Carbon, 1.5 K ohm, ±10%, 1/8W	2
R627, 727		Carbon, 100 K ohm, ±10%, 1/8W	2
R626, 726		Carbon, 27 K ohm, ±10%, 1/8W	2
		CAPACITORS	
C614, 714		Ceramic, 220 pF, ±10%, 50V	2
C616, 716		Ceramic, 39 pF, ±10%, 50V	2
C611, 711		Ceramic, 470 pF, ±10%, 50V	2
C625, 725		Ceramic, 0.0018 mfd, ±10%, 50V	2
C626, 726		Ceramic, 0.0033 mfd, ±10%, 50V	2
C620, 720		Mylar, 0.001 mfd, ±10%, 50V	2
C623, 723		Mylar, 0.027 mfd, ±10%, 50V	2
C619, 719		Mylar, 0.083 mfd, ±10%, 50V	2
C618, 718		Mylar, 0.027 mfd, ±5%, 50V	2
C621, 721		Styrol, 1500 pF, ±10%, 50V	2
C603		Electrolytic 25V/100mfd	1
C601, 602, 604		Electrolytic 16V/220mfd	3
C615, 715		Electrolytic 6.3V/10mfd	2
C612, 712, 624, 724		Electrolytic 16V/1mfd	4
C617, 717, 622, 722		Electrolytic 10V/10mfd	4
C613, 713		Electrolytic 16V/10mfd	2
8-TRACK BIAS OSCILLATOR CIRCUIT BOARD			
	R-A71125	Circuit board assembly, 8 TR OSC	1
	R-417311	Printed circuit board	1
L651	R-W8767	OSC coil	1
SVR651	R-R110704	Preset resistor, 50K	1

Schematic Location	Part No.	Description	Q'ty
		SEMICONDUCTORS	
TR651, 652		Transistor, 2SC1317R	2
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R665		1 ohm	1
R663, 664		10 ohm	2
R662		4.7 K ohm	1
R661		10 K ohm	1
R651		22 ohm	1
		CAPACITORS	
C663		Styrol, 1500 pF, ±10%, 125V	1
C661, 662		Mylar, 0.033 mfd, ±10%, 50V	2
C664		Mylar, 0.01 mfd, ±10%, 50V	1
C651		Electrolytic 16V/220mfd	1
POWER SUPPLY CIRCUIT BOARD			
	R-A71476	Circuit board assembly, Power supply	1
	R-4170480	Printed circuit board	1
	R-237050	Eyelet	5
	R-247493	Wirerap terminal	
		SEMICONDUCTORS	
D851, 852, 853, 854, 856		Diode, 10D-1 or SM-1	5
D857		Zener diode, BZ-162	1
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R853		5.6 K ohm	1
R852		Solid, 10 ohm, ±10%, 1/2W	1
R854		Metal oxide film, 270 ohm, ±10%, 2W	1
		CAPACITORS	
C855, 856		Ceramic, 0.047 mfd, +80 –20%, 50V	2
C853		Electrolytic 25V/220mfd	1
C854		Electrolytic 25V/1000mfd	1
C857		Electrolytic 35V/220mfd	1
C851, 852		Electrolytic 40V/1000mfd	2
C860		Electrolytic 25V/2200mfd	1
CONTROL CIRCUIT BOARD			
	R-A71126	Circuit board assembly, Control	1
	R-4170490	Printed circuit board	1/2
	R-247493	Wirerap terminal	21
		SEMICONDUCTORS	
TR261, 361		Transistor, 2SC1648 LN	2
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R251		4.7K ohm	1
R261, 361		1 K ohm	2
R262, 362		18 K ohm	2
R263, 363		270 K ohm	2
R264, 364		220 ohm	2
E265, 365		10 K ohm	2
R266, 366		10 K ohm	2
R271, 371, 272, 372		15 K ohm	4
R267, 367		680 ohm	2
R268, 368		4.7 K ohm	2
R269, 369		470 ohm	2
R270, 370		12 K ohm	2
R273, 373		150 K ohm	2
R274, 374		5.6 K ohm	2
R275, 375		470 K ohm	2

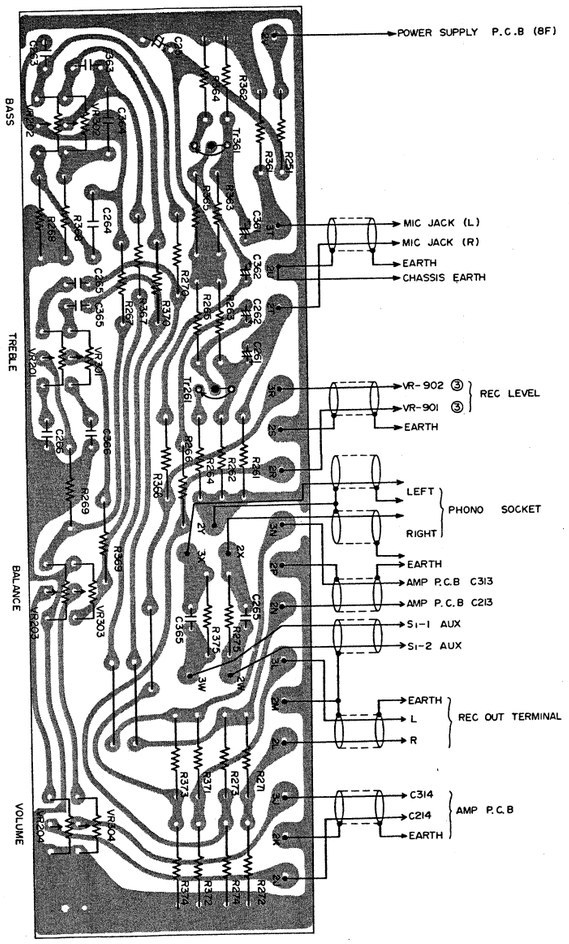
PARTS LIST

Schematic Location	Part No.	Description	Q'ty
		CAPACITORS	
C263, 363		Mylar, 0.022 mfd, ±10%, 50V	2
C264, 364		Mylar, 0.1 mfd, ±10%, 50V	2
C265, 365		Mylar, 0.0047mfd, ±10%, 50V	2
C266, 366		Mylar, 0.015 mfd, ±10%, 50V	2
C267, 367		Ceramic, 60 pF, ±10%, 50V	2
C261, 361, 262, 362		Electrolytic 16V/1mfd	4
C251		Electrolytic 16V/330mfd	1
8-TRACK CONTROL CIRCUIT BOARD			
	R-A71127	Circuit board assembly, 8 TR control	1
	R-4170491	Printed circuit board	1/2
	R-S27110	Terminal	8
		SEMICONDUCTORS	
TR801		Transistor, 2SC1226 R	1
TR802		Transistor, 2SA564 R	1
D801		Diode, 10D-1 or SM-1	1
D802		Diode, 1S1588	1
SCR801		SCR, M21C	1
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R802, 804		1 K ohm	2
R805		10 K ohm	1
R806		4.7 K ohm	1
R807, 808		560 ohm	2
R801		Solid, 10 ohm, ±10%, 1/2W	1
R803		Solid, 560 ohm, ±10%, 1/2W	1
		CAPACITORS	
C801		Electrolytic 25V/330mfd	1
C803		Electrolytic 10V/100mfd	1
C806		Electrolytic 25V/10mfd	1
METER CIRCUIT BOARD			
	R-A71477	Circuit board assembly, Meter	1
	R-4170492	Printed circuit board	1/2
	R-S27110	Terminal	19
		SEMICONDUCTORS	
TR751		Transistor, 2SC536D	1
D751, 752		Diode, 1S188 AM	2
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R751		56 K ohm	1
R752		270 K ohm	1
R753		820 ohm	1
R754		5.6 K ohm	1
		CAPACITORS	
C753, 754		Mylar, 0.01 mfd, ±20%, 50V	2
C751, 752		Electrolytic 16V/1mfd	2
MPX. FM STEREO CIRCUIT BOARD			
	R-A70786	Printed circuit board assembly	1
	R-4170334a	Printed circuit board	1/2
	R-S1803	Terminal	1
	R-247493	Wirerap terminal	8
SVR101	R-R110718	Preset resistor, 10K	1
L101, 102	R-W1751	Choke coil, 40mH	2
		SEMICONDUCTORS	
TR101		Transistor, 2SC536 D	1
IC101		Integrated circuit, HA1156	1

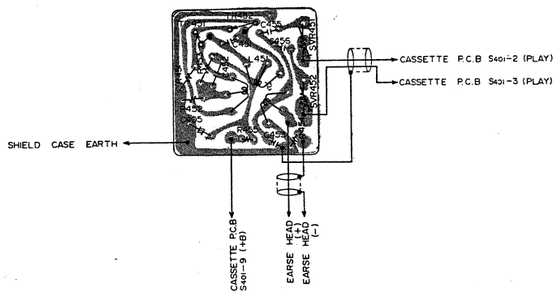
Schematic Location	Part No.	Description	Q'ty
MPX. FM STEREO CIRCUIT BOARD			
		RESISTORS	
		(Resistors are of carbon type, ±10% allowance and 1/4W unless otherwise noted.)	
R101		220 K ohm	1
R102		820 ohm	1
R103, 104, 105		3.8 K ohm	3
R106		100 ohm	1
R107		15 K ohm	1
R108		1 K ohm	1
R109, 112		3.3 K ohm	2
R110, 111		5.6 K ohm	2
R113		39 K ohm	1
R114		2.2 K ohm	1
		CAPACITORS	
C109, 110		Mylar, 0.0047 mfd, ±20%, 50V	2
C103		Mylar, 0.047 mfd, ±20%, 50V	1
C111, 115		Mylar, 0.0068 mfd, ±20%, 50V	2
C113, 114		Mylar, 0.001 mfd, ±20%, 50V	2
C116, 117		Mylar, 0.022 mfd, ±20%, 50V	2
C112		Styrol, 460 pF, ±5%, 50V	1
C118		Electrolytic 16V/220mfd	1
C101, 107, 108		Electrolytic 10V/10mfd	3
C104		Electrolytic 16V/0.47mfd	1
C105, 106		Electrolytic 10V/0.22mfd	2
C102		Electrolytic 10V/1mfd	1

CIRCUIT BOARD DIAGRAM (Bottom View)

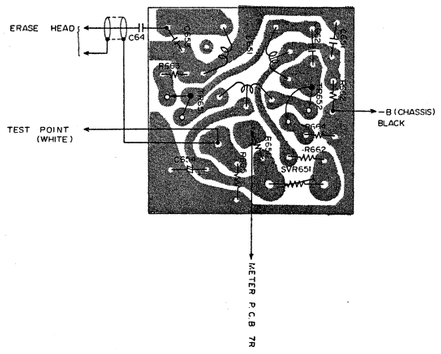
CONTROL CIRCUIT BOARD



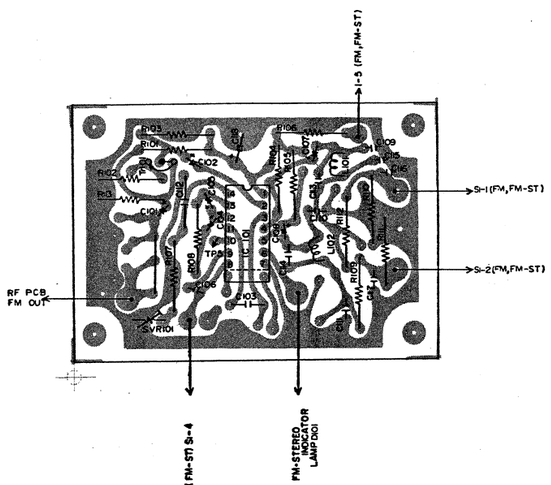
CASSETTE BIAS OSC CIRCUIT BOARD



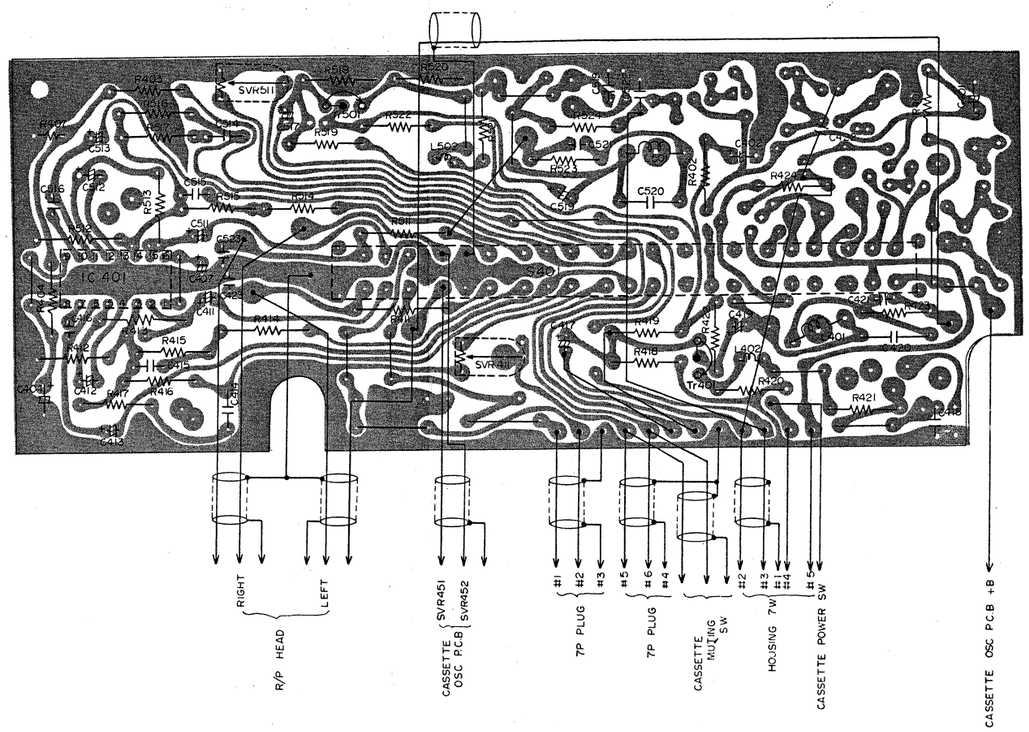
8-TRACK BIAS OSC CIRCUIT BOARD



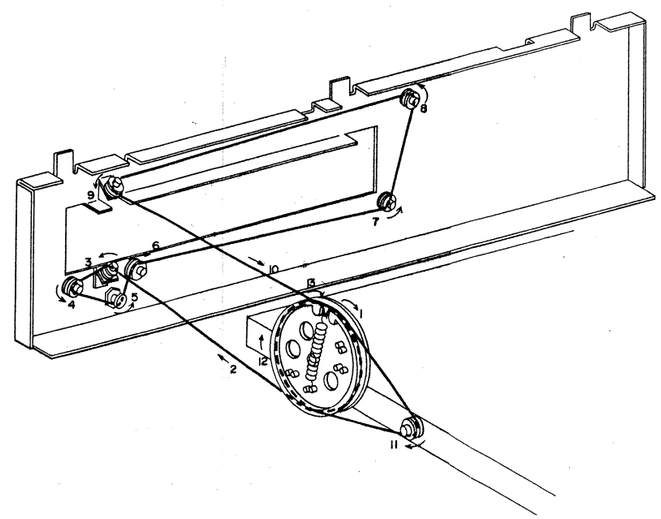
FM(MPX) STEREO CIRCUIT BOARD



CASSETTE AMPLIFIER CIRCUIT BOARD



DIAL CORD STRINGING

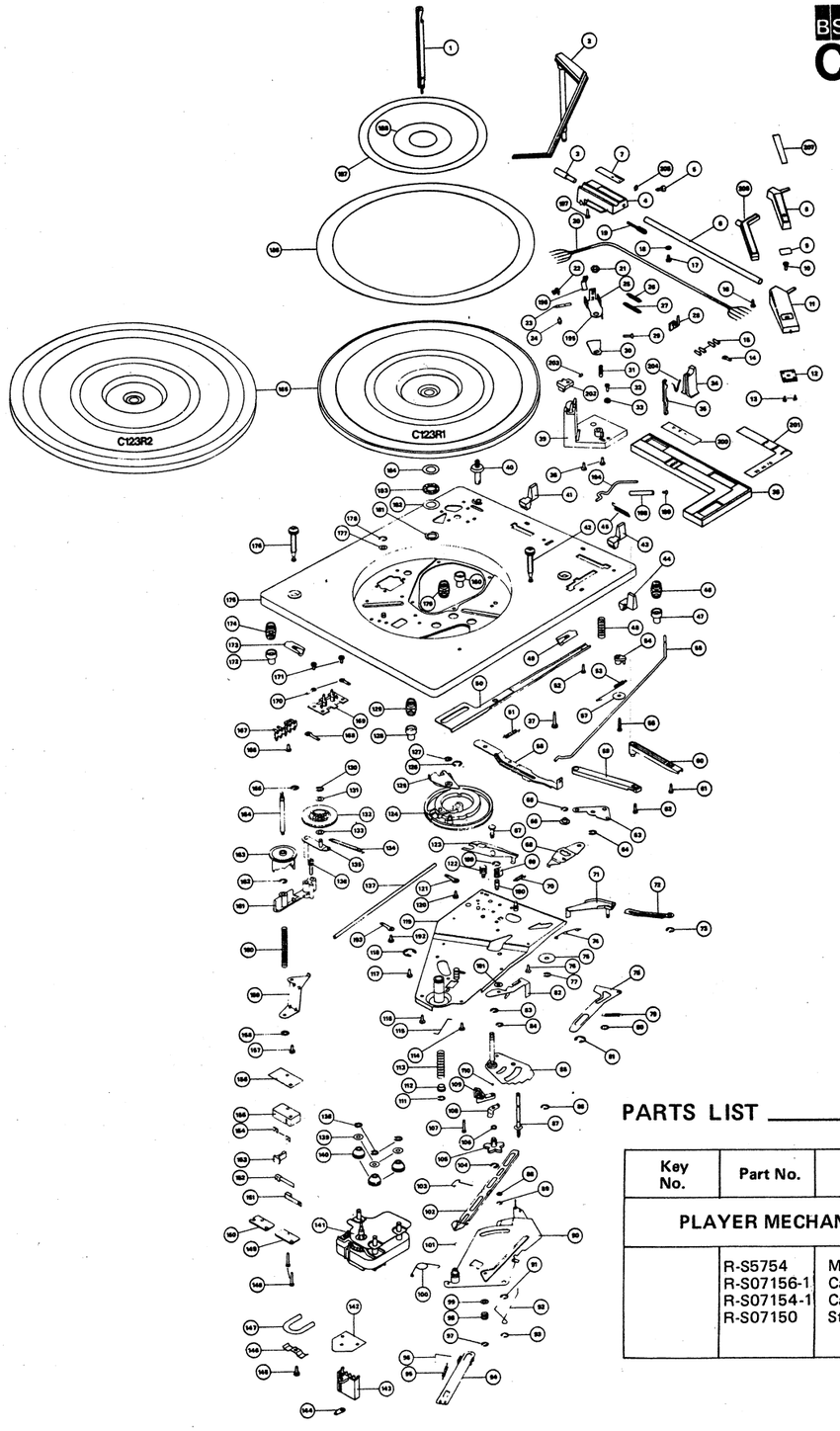


PARTS LIST (AUTOMATIC RECORD CHANGER)

Item	Part No.	Description
1	A.107043	Centre Spindle Assembly
2	B.110406	Control Arm Assembly
3	A.108399	Tube End
4	A.111187	Pick-Up Body Sub Assembly
5	A.106652	Screw (Pick-Up Pivot)
6	B.106660	Pick-Up Tube
7	A.111156	Pick-Up Arm Body Trim
8	D.110872	Pick-Up Head
9	A.110400	Pick-Up Head Trim
10	A.106573	Screw Type 6 BA × 5/16" Rec. Countersunk Head
11	C.110397	Pick-Up Head
12	A.106775	Adaptor Plate
13	A.106506	Screw Type B No. 2 × 1/8" Rec. Pan Head
14	A.103587	Solder Tag
15	A.104306	Sleeve
16	A.109551	Screw Type A No. 4 × 1/4" Rec. Pan Head
17	A.109551	Screw Type A No. 4 × 1/4" Rec. Pan Head
18	A.106504	6 BA External Lockwasher
19	A.108344	Balance Adjusting Screw
20	A.106745	23"Quin Pick-Up Lead
21	A.105624	Pick-Up Spindle Nut
22	A.108382	Spring (Hinge Retainer)
23	A.108381	Pick-Up Pivot
24	A.106205	Circlip
25	A.108384	Hinge Bracket Riveting Assembly
26	A.103790	Pick-Up Balance Spring
27	A.105669	Pick-Up Balance Spring
28	A.111157	Balance Adjuster
29	A.106917	6 BA × 3/8" Cheese Head Screw
30	A.106654	Pick-Up Adjuster
31	A.106047	Locking Sleeve
32	A.105712	Adjusting Screw
33	A.105907	Nut
34	B.111152	Pick-Up Rest
35	A.106664	Pick-Up Clip
36	C.111150	Control Cover
37	A.108911	Screw Type BT 6-20 × 3/8" Rec. Pan Head
38	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
39	C.106138	Control Housing
40	B.106904	Anti-Skate Control Assembly
41	B.110360	Knob
42	A.104189	Transit Screw
43	B.110360	Knob
44	B.110360	Knob
45	A.106473	Spring
46	A,106090	Spring (Unit Mounting)
47	A.106089	Spring Cup
48	A.106813	Spring (Anti-Skate Control)
49	A.102166	Retaining Clip
50	B.108113	Speed Change Slide Assembly
51	A.105826	Spring (Switch Lever)
52	A.105267	Screw Type BT 4-24 × 5/16" Rec. Pan Head
53	A.106812	Spring (Anti-Skate)
54	B.106815	Spring Anchor
55	B.106405	Switch Link
56	A.107863	Screw Type BT 4-24 × 5/16" Rec. Pan Head
57	A.106816	Washer
58	A.106129	Switch Lever
59	B.106119	Reject Slide
60	B.106143	Selector Slide
61	A.105267	Screw Type BT 4-24 × 5/16" Rec. Pan Head
62	A.105267	Screw Type BT 4-24 × 5/16" Rec. Pan Head
63	A.106193	Reject Plate Assembly
64	A.102109	Circlip
65	A.100785	Circlip
66	A.108461	Roller
67	A.108064	Slide Pin
68	A.108033	Detent Plate
69	A.108891	Selector Pivot Spring
70	A.108075	Spring (Detent Plate)
71	A.108283	Reject Lever Assembly
72	A.106134	Reject Link
73	A.102109	Circlip
74	A.106627	Spring (Detent)
75	A.105660	Control Washer
76	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
77	A.100762	Circlip
78	B.105592	Cut-Off Lever
79	A.102623	Spring (Cut-Off Lever)
80	A.102251	Retainer
81	A.101526	Circlip
82	B.108036	Selector Lever
83	A.102128	Circlip
84	A.100785	Circlip
85	B.108085	Quadrant Assembly
86	A.108334	Circlip
87	A.106697	Pick-Up Raising Spindle Assembly
88	A.106966	Washer
89	A.104077	Circlip
90	B.108168	Operating Plate Assembly
91	A.102109	Circlip
92	A.108078	Spring (Selector Drive)
93	A.102109	Circlip
94	B.105597	Feed Lever Link
95	A.105827	Spring (Link Return)
96	A.106968	Spring (Feed Lever Link)
97	A.100785	Circlip
98	A.108077	Spring
99	A.103290	Washer
100	A.106980	Spring (Operating Plate)
101	A.107419	3/32"Diameter Ball Bearing
102	B.106962	Actuating Slide
103	A.105901	Spring (Actuating Slide)
104	A.100762	Circlip
105	B.108073	Toggle Wheel
106	A.108654	Spring Clip
107	A.106512	Screw Type BT 4-24 × 3/8" Rec. Pan Head
108	A.107004	Support Spring
109	A.106965	Support Bracket
110	A.107154	3/32"Diameter Ball Bearing
111	A.102109	Circlip
112	A.104861	Spacer
113	A.110985	Spring (Control Spindle)
114	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
115	A.104882	Retaining Clip
116	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
117	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
118	A.105678	Circlip
119	C.108483	Main Sub Plate Riveting Assembly
120	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
121	A.102126	Solder Tag
122	A.108083	Spring (Cut-Off Slide)
123	A.108034	Cut-Off Slide
124	A.102133	Cam Gear Riveting Assembly
125	A.106819	Actuating Pawl Assembly
126	A.102110	Circlip
127	A.100762	Circlip
128	A.106089	Spring Cup
129	A.106090	Spring (Unit Mounting)
130	A.100762	Circlip
131	A.101620	Washer
132	A.101623	Jockey Pulley Assembly
133	A.101620	Washer
134	A.105824	Spring (Jockey Pulley)
135	A.105965	Jockey Arm Riveting Assembly
136	A.105619	Adjusting Screw
137	A.108401	7"—3mm PVC Sleeving
138	A.100762	Circlip
139	A.101646	Motor Mounting Washer
140	A.102181	Rubber Mounting
141		Two Pole Motor Assembly (TP8)
142	A.104865	Insulating Strip
143	A.103096	Amp Plug Housing
144	A.106749	4 BA Tag Lockwasher
145	A.105263	Screw Type BT 6-20 × 3/8" Rec. Pan Head
146	A.102718	Cable Clamp
147	A.106513	3"—5mm PVC Sleeving
148	A.106512	Screw Type BT 4-24 × 3/8" Rec. Pan Head
149	A.108182	Switch Cover
150	A.108183	Switch Cover
151	A.200444	Contact (Domed)
152	A.200445	Contact (Flat)
153	A.200450	Switch Dolly
154	A.200446	Solder Tag
155	B.108181	Switch Body
156	A.106015	Retaining Strip
157	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
158	A.102128	Circlip
159	A.106034	Speed Change Bracket
160	A.105831	Spring (Raising Spindle)
161	B.106021	Speed Change Arm
162	A.102109	Circlip
163	B.110364	Raising Cam
164	A.108589	Raising Spindle
165	A.102128	Circlip
166	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
167	A.106206	Tag Mounting Strip
168	A.102126	Solder Tag
169	A.102616	Phono Socket
170	A.102126	Solder Tag
171	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
172	A.106089	Spring Cup
173	A.102166	Retaining Clip
174	A.106090	Spring (Unit Mounting)
175	B.109328	Mainplate Sub Assembly
176	A.104189	Transit Screw
177	A.102595	Washer
178	A.102109	Circlip
179	A.106090	Spring (Unit Mounting)
180	A.106089	Spring Cup
181	A.102058	Damping Washer
182	A.101506	Thrust Washer
183	A.101649	Ballrace
184	A.101506	Thrust Washer
185	D.111148	Turntable Moulding (C123R1) or D111649 Turntable Moulding (C123R2)
186	A.111155	Turntable Trim
187	A.111154	Turntable Trim
188	A.111153	Turntable Centre Disc
189	A.102109	Circlip
190	A.108894	Selector Pivot
191	A.108893	Washer
192	A.106510	Screw Type B No. 6 × 1/4" Rec. Pan Head
193	A.102126	Solder Tag
194	A.106474	Raising Arm
195	A.108833	Hinge Bracket Riveting Assembly (includes item 196)
196		Restrictor Spring
197	A.108343	Screw Type BT 4-24 × 3/8" Rec. Pan Head
198	A.110381	Knob
199	A.110408	Cap
200	A.110374	Trim
201	A.110373	Trim
202	A.106665	Raising Pad
203	A.106505	Grub Screw 6 BA × 1/8" Pointed
204	A.106173	Pick-Up Rest Spring
205	A.108348	Circlip
206		'Custom Design' Head
207	A.110864	Pick-Up Head Trim

EXPLODED VIEW (AUTOMATIC RECORD CHANGER)

BSR
C123R1



PARTS LIST

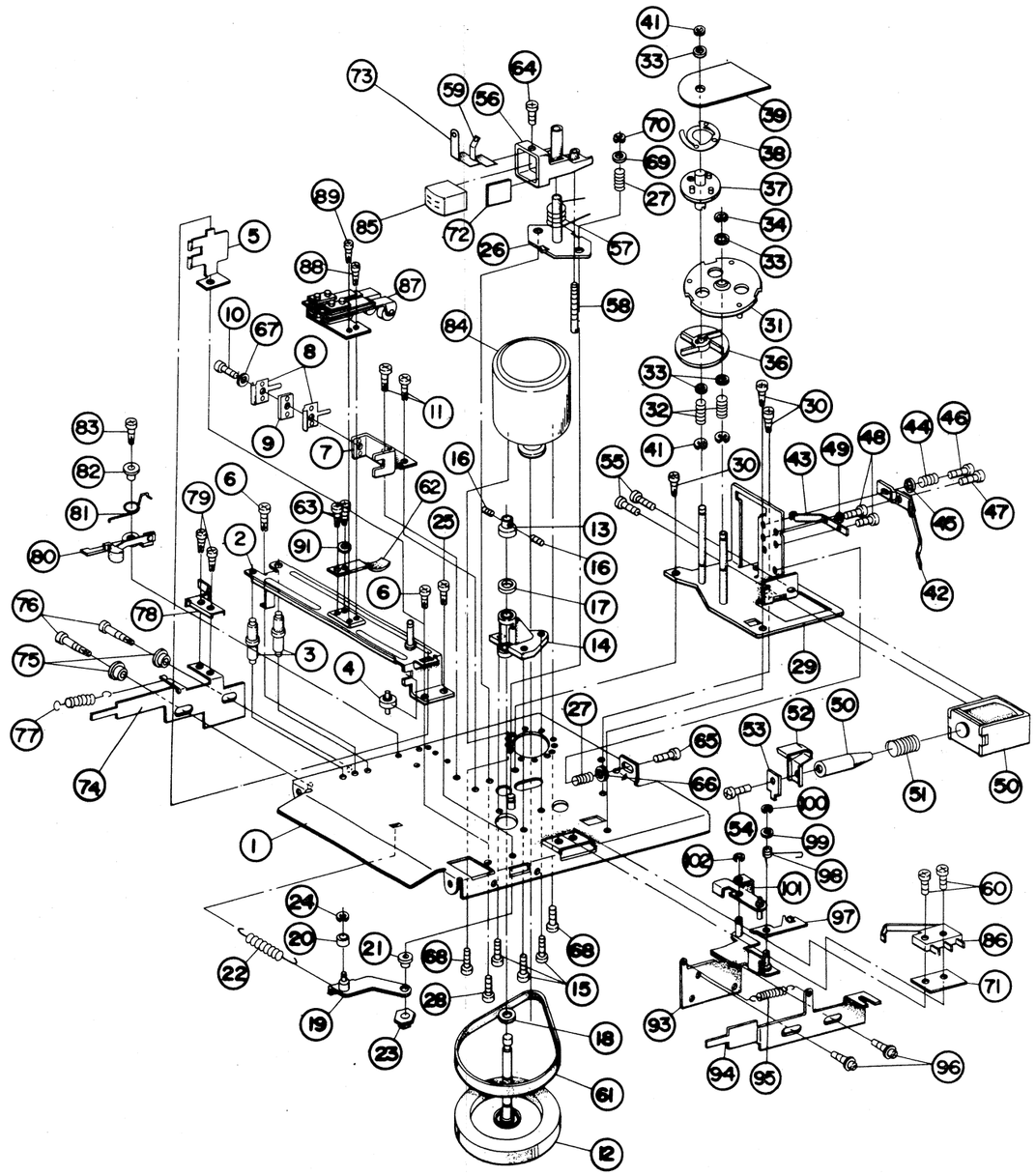
Key No.	Part No.	Description	Q'ty
PLAYER MECHANISM PARTS			
	R-S5754	Motor Unit, BSR C-123R	1
	R-S07156-1	Cartridge Assembly	1
	R-S07154-1	Cartridge	(1)
	R-S07150	Stylus	(1)

PARTS LIST

Key No.	Part No.	Description	Q'ty
	8 TRACK MECHANISM PARTS GMC-8002		
1	R-S870588	Chassis assembly	1
2	R-1170621a	Guide, Cartridge	1
3	R-3970699	Guide, Roller	2
4	R-3970885	Cramper, Roller A	1
5	R-1270041	Metal bracket, Roller	1
6		Tap. Screw, Pan Hd., 3x6 Guide — Chassis	2
7	R-237125	Guide, Tape	1
8	R-257075a	Sensing, Contact	2
9	R-3970008	Sensing, Insulator	1
10		Screw, Pan Hd., 3x4 Sencer — Guide	1
11		Tap. Screw, Pan Hd., 3x4 Guide — Chassis	2
12	R-S870494	Flywheel	1
13	R-S870495	Pulley, Flywheel	1
14	R-S870496	Capstan housing	1
15		Screw, Pan Hd., 3x6 Capstan housing — Chassis	3
16		Ring, C, 2.6x4 Pulley — Flywheel	2
17		Washer, Thrust, 6ϕx1t Flywheel	1
18		Whasher, Thrust, 6ϕx1t Flywheel	1
19	R-S870508	Arm assembly, Roller B	1
20	R-3970700	Cramper, Roller B	1
21	R-247527	Shaft, Arm roller B	1
22	R-157466	Coil Spring	1
23		Nut, with Washer, M3	1
24		Ring, E, 1.5	1
25		Screw, Pan Hd., 3x10	1
26	R-S870497	Head base assembly	1
27	R-157196	Coil spring	2
28		Screw, Pan Hd., 3x8	1
29	R-S870498	Metal bracket assembly, CH switch	1
30		Tap. Screw, Bind Hd., 3x6	3
31	R-S870499	Actuate cam	1
32	R-157471	Coil spring	2
33		Washer, Plain, 4ϕx8ϕx0.5t	4
34		Ring, E, 3	2
36	R-3970702	Cam	1
37	R-3970703	Wheel, Selector wheel	1
38	R-257113	Contact spring	1
39	R-4170447	Switching board	1
		Eyelet, 1.6x3	5
41		Ring, E, 3	2
42	R-257110	Spring metal	1
43	R-A71158	Spring metal assembly	1
44	R-157473	Coil spring	1
45		Washer, Flat, 3.3ϕx8ϕx0.5t	1
46		Screw, Pan Hd., 2.6x10	1
47		Screw, Pan Hd., 2.6x8	1
48		Tap. Screw, Pan Hd., 2.6x5	2
49		Washer, Flat, 3.3ϕx8ϕx0.5t	1
50	R-S870509	DC solenoid assembly	1
	D803	Diode, 10D-1 or SM-1	1
51	R-157498	Coil spring	1
52	R-257112	Spring metal	1
53	R-237126	Metal bracket	1
54		Screw, Pan Hd., 3x6	1
55		Screw, Pan Hd., 3x4	2
56	R-S870557	Head holder	1
57	R-157470	Coil spring	1
58	R-247528	Special screw	1
59	R-237129	Spacer	1
60		Screw, Pan Hd., 2x10 (HIOS)	2
61	R-447857	Rubber belt	1
62	R-257125	Spring metal	1
63		Tap. Screw, Pan Hd., 3x4	2
64		Screw, Pan Hd., 2.6x8	1
65		Screw, Pan Hd., 3x12	1
66		Washer, Flat, 3.3ϕx8ϕx0.5t	1
67		Washer, Fiber, 3.3ϕx8ϕx0.5t	1
68		Screw, Pan Hd., 2.6x4	3
69		Washer, Flat, 3.3ϕx8ϕx0.5t	1
70		Ring, E, 2	1
71	R-4170703	Insulation paper	1

Key No.	Part No.	Description	Q'ty
72	R-237141	Spacer, Head	1
73	R-237111	Special lug	1
74	R-127972	Lever, Rec.	1
75	R-157506	Shaft, Lever	2
76		Tap. Screw, Pan Hd., 3x8	2
77	R-157366a	Coil spring	1
78	R-157487	Switch, Lever	1
79		Tap. Screw, Pan Hd, 3x6	2
80	R-S870390	Rock arm assembly, Rec.	1
81	R-157328	Coil psring	1
82	R-247474a	Shaft	1
83		Tap. Screw, Pan Hd., 2.6x8	1
84	R-S57043-1	Motor	1
85	R-S07142	Head	1
86	R-S47200	Micro switch	1
87	R-S47199	Leaf switch	1
88		Tap. Screw, Pan Hd., 3x4	1
89		Tap. Screw, Pan Hd., 3x6	1
90		Washer, Flat, 3.3ϕx8ϕx0.5t	1
92		Washer, Thrust, 6ϕx0.5t	1
93	R-A71556	Metal bracket assembly	1
104		Tap. Screw, Pan Hd., 3x6	2
94	R-1170656b	Lever, Pause	1
95	R-147593	Coil spring, Lever	1
96	R-147049	Special screw	2
97	R-1170655	Lock arm	1
98	R-157494a	Spring, Lock arm	1
99		Washer, Flat, 3.3x8x0.5t	1
100		Ring, E, 2	1
101	R-S870579a	Arm assembly, Cartridge push out	1
102		Ring, E, 3	1

EXPLODED VIEW (8-Track Mechanism)

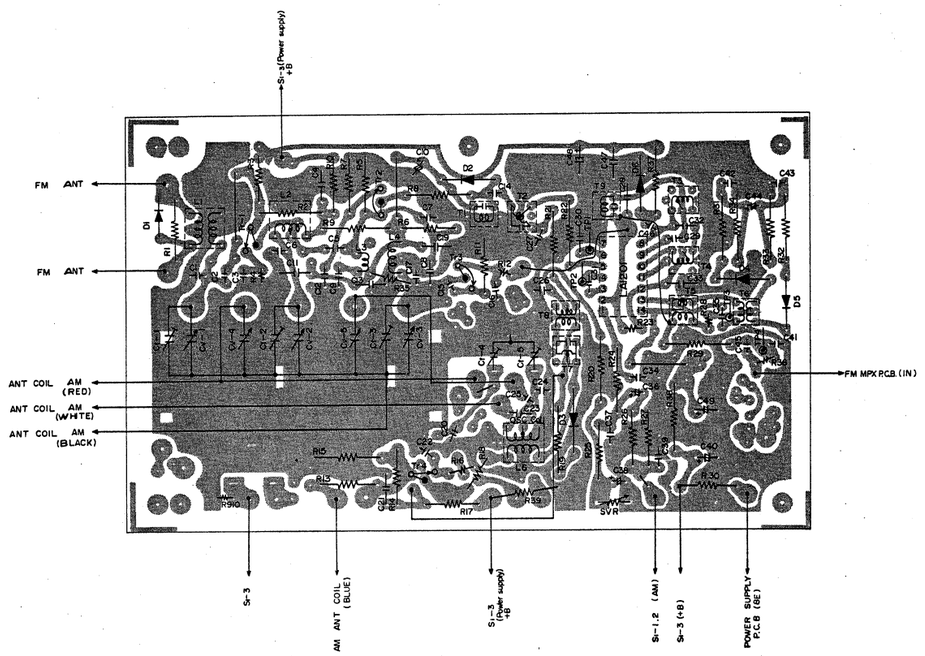


SCHEMATIC DIAGRAM

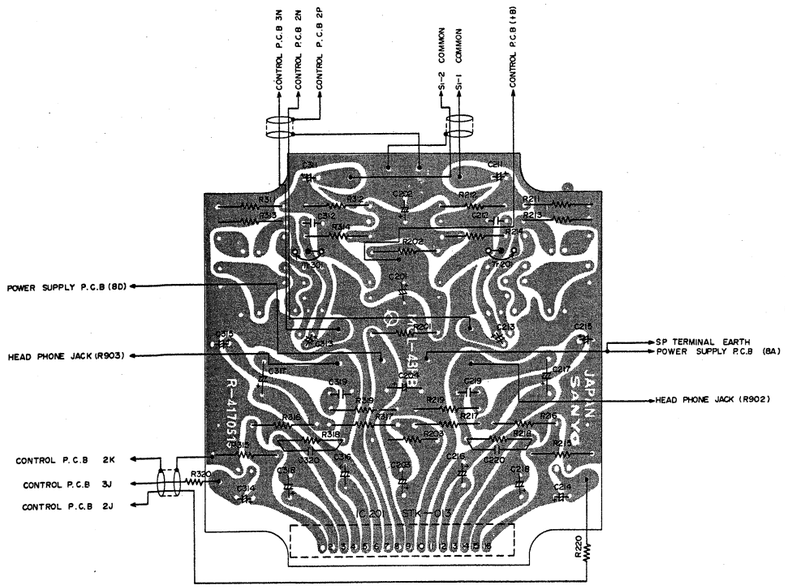
	IC 101 PIN	IC 101 (V)	IC 1 (V)	IC 201 (V)
○ AM	1	10.4	2.5	8.4
○ FM	2	3.2	3.0	8.0
○ FM ST	3	5.4	0.7	0.5
○ PHONO	4	7.5	1.3	0
○ CASSETE	5	7.5	1.3	2.8
○ 8Tr	6	10.2	0.6	1.6
○ AUX	7	0	0	0
SI-1~SI-3 FUNCTION	8	2.5	3.0	3.3
	9	2.5	0.7	3.2
	10	1.7	2.1	0
	11	2.5	0	1.6
	12	2.5	2.1	2.8
	13	2.5	5.0	0
	14	3.2	5.0	.05
	15			8.0
	16			8.4

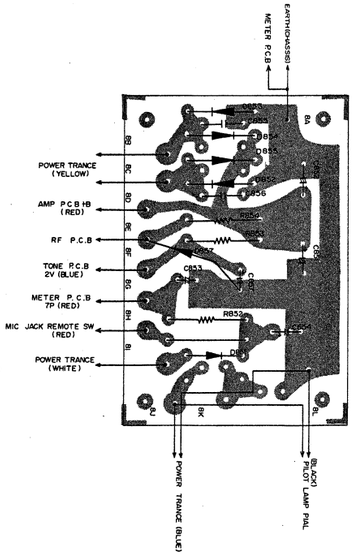
CIRCUIT BOARD AMPLIFIER (Bottom View)

TUNER (RF AMPLIFIER) CIRCUIT BOARD



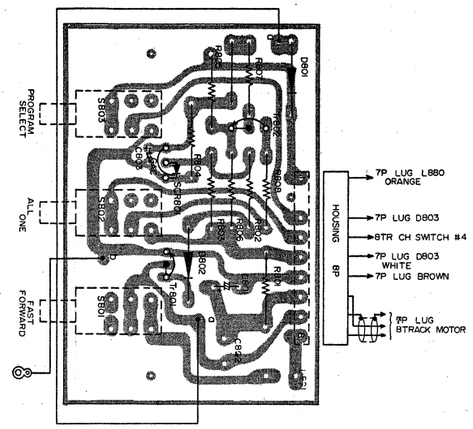
AUDIO AMPLIFIER CIRCUIT BOARD



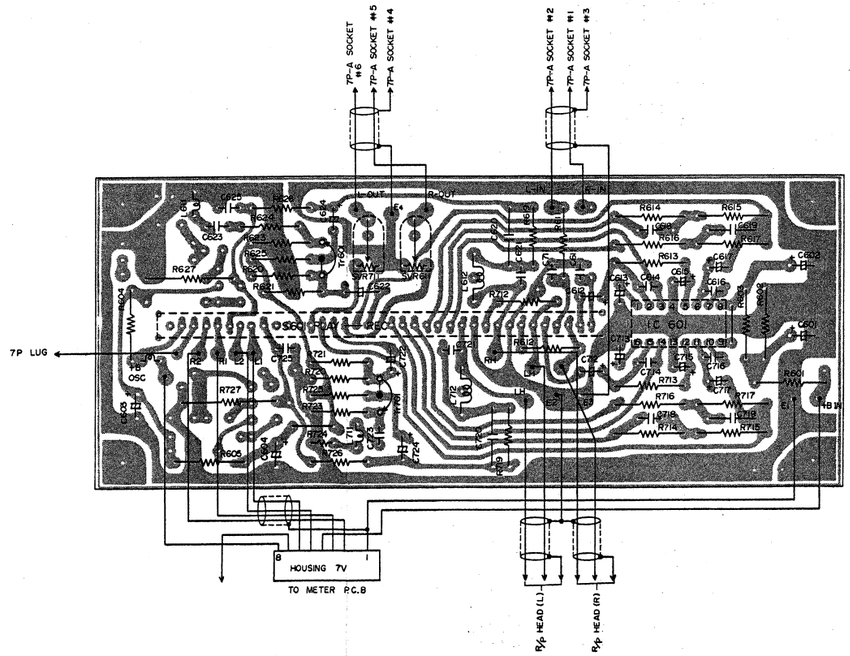


POWER SOURCE CIRCUIT BOARD

8-TRACK CONTROL CIRCUIT BOARD



8-TRACK AMPLIFIER CIRCUIT BOARD

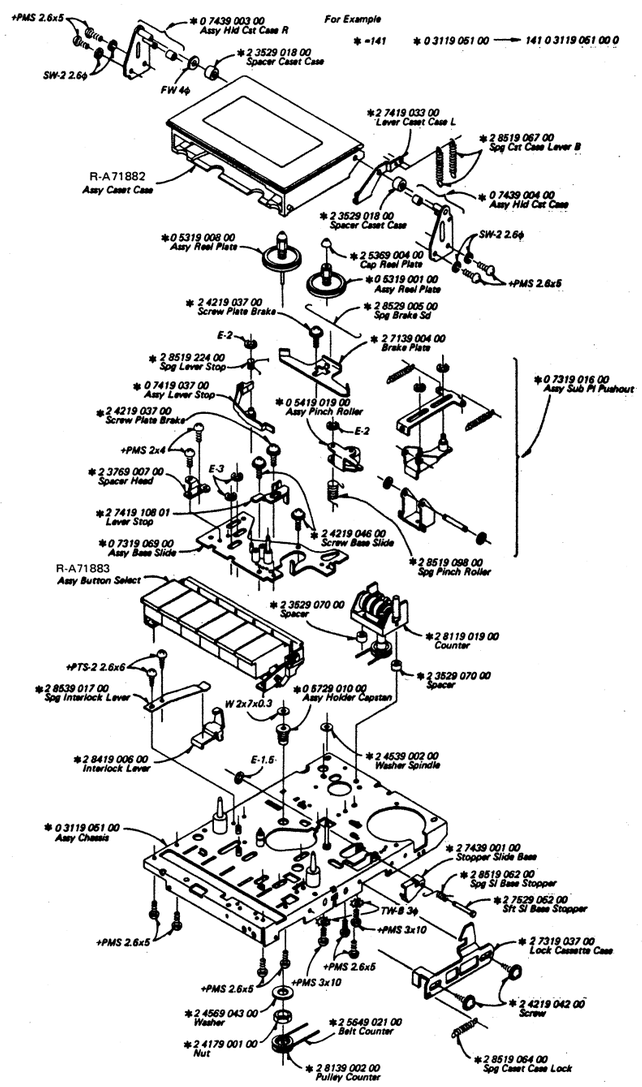


PARTS LIST

Key No.	Part No.	Description	Q'ty
	CASSETTE MECHANISM TM-68MS2		
	141 0 3119 051 00	ASSY CHASSIS	1
	4 2319 700 10	SWITCH POWER	1
	4 5279 704 41	MOTOR	1
	101 3 1302 004 11	+PMS M2.0x4 SPACER HEAD	2
	110 3 1204 000 11	FW M4.0 HLD CST CASE L	1
	110 3 9200 400 25	W 2.0x4.0x02 ASSY REW ROLLER	1
	110 3 9200 700 34	WASHER M2.0x7x0.3	2
	112 3 1303 000 40	E RING M3.0 ASSY SLIDE BASE	2
	141 0 3519 008 02	ASSY SUP FLYWHEEL	1
	141 0 5219 013 00	ASSY FLYWHEEL)or	1
	141 0 5219 018 00	ASSY FLYWHEEL	1
	141 0 5319 001 00	ASSY REEL PLATE	1
	141 0 5319 008 00	ASSY REEL PLATE	1
	141 0 5419 019 00	ASSY PINCH ROLLER	1
	141 0 5519 001 00	ASSY TAKE UP PULLEY	1
	141 0 5519 002 00	ASSY IDLER	1
	141 0 5519 007 00	ASSY REWIND ROLLER	1
	141 0 5729 002 00	ASSY BUSH CAPSTAN	1
	141 0 5729 010 00	ASSY HOLDER CAPSTAN	1
	141 0 7319 003 00	ASSY BASE IDLER	1
	141 0 7319 004 00	ASSY ARM REW ROLLER	1
	141 0 7319 016 00	ASSY SUB PL PUSHOUT	1
	141 0 7319 022 00	ASSY ARM SLIDE BASE	1
	141 0 7319 069 00	ASSY BASE SLIDE	1
	141 0 7419 037 00	ASSY LEVER STOP	1
	141 0 7419 114 00	ASSY LEVER SW	1
	4 2319 720 40	SWITCH SNAP	1
	141 0 7439 003 00	ASSY HLD CST CASER	1
	141 0 7439 004 00	ASSY HLD CST CASE	1
	141 2 3769 007 00	SPACER HEAD	1
	141 2 4179 001 00	NUT	2
	141 2 4219 038 00	SCREW ARM REW ROLLER	1
	141 2 4219 042 00	SCREW LOCK CASET CASE	2
	141 2 4219 046 00	SCREW BASE SLIDE	2
	141 2 4539 002 00	WASHER SPINDLE	1
	141 2 4539 067 00	WASHER CAPSTAN	1
	141 2 4569 043 00	WASHER BUSH CAPSTAN, HOLDER CAPSTAN	2
	141 2 5369 004 00	CAP REEL PLATE	1
	141 2 5649 002 01	SQUARE DRIVING BELT	1
	141 2 7139 004 00	BRAKE PLATE	1
	141 2 7319 009 00	SLIDE ARM PWR SW	1
	141 2 7319 037 00	LOCK CASSETTE CASE	1
	141 2 7419 033 00	LEVER CASET CASE L	1
	141 2 7419 108 01	LEVER STOP	1
	141 2 7439 001 00	STOPPER SLIDE BASE	1
	141 2 7529 052 00	SFT SL BASE STOPPER	1
	141 2 8139 002 00	PULLEY COUNTER	1
	141 2 8259 004 00	ROLLER IDLER BASE	2
	141 2 8419 006 00	INTERLOCK LEVER	1
	141 2 8429 007 00	LEVER RP SW	1
	141 2 8519 009 00	SPG SLIDE BASE	1
	141 2 8519 012 00	SPG SLIDE ARM PWR SW	1
	141 2 8519 013 00	SPG TAKE UP PULLEY	1
	141 2 8519 017 00	SPG IDLER	1
	141 2 8519 018 00	SPG REWIND ROLLER	1
	141 2 8519 062 00	SPG SL BASE STOPPER	1
	141 2 8519 064 00	SPG CASET CASE LOCK	1
	141 2 8519 067 00	SPG CST CASE LEVER B	2
	141 2 8519 098 00	SPG PINCH ROLLER	1
	141 2 8519 191 00	SPG LEVER RP SW	1
	141 2 8519 224 00	SPG LEVER STOP	1
	141 2 8529 005 00	SPG BRAKE SD	1
	141 2 8539 017 00	SPG INTERLOCK LEVER	1
	141 2 4219 037 00	SCREW PLATE BRAKE	1
	141 2 4219 037 00	SCREW PLATE BRAKE LEVER STOP	1
	141 2 3529 018 00	SPACER CASET CASE HLD CST CASE R	1
	141 2 3529 018 00	SPACER CASET CASE HLD CST CASE L	1
	112 3 1301 500 40	E RING M1.5 ASSY REW ROLLER	1
	112 3 1301 500 40	E RING M1.5 SFT SL BASE STOP	1
	112 3 1301 500 40	E RING M1.5 SL ARM PWR SW	2

Key No.	Part No.	Description	Q'ty
	CASSETTE MECHANISM TM-68MS2		
	112 3 1302 000 40	E RING M2.0 TAKE UP PULLEY	1
	112 3 1302 000 40	E RING M2.0 LEVER RP SWITCH	2
	112 3 1302 000 40	E RING M2.0 ASSY IDLER	1
	112 3 1302 000 40	E RING M2.0 PINCH ROLLER	1
	112 3 1302 000 40	E RING M2.0 ASSY LEVER STOP	1
	110 3 2102 600 11	SW-2 M2.6 HLD CST CASE L	2
	110 3 2102 600 11	SW-2 M2.6 HLD CST CASE R	2
	101 3 1302 605 11	+PMS M2.6x5 SUB PL PUSHOUT	2
	101 3 1302 605 11	+PMS M2.6x5 SUPPORT FLYWHEEL	2
	101 3 1302 605 11	+PMS M2.6x5 HLD CST CASE L	2
	101 3 1302 605 11	+PMS M2.6x5 HLD CST CASE R	2
	103 3 1302 606 11	+PTS-2 M2.6x6 MOTOR	2
	103 3 1302 606 11	+PTS-2 M2.6x6 INTLK LEVER	2
	103 3 1302 606 11	+PTS-2 M2.6x6 ASSY LEVER SW	2
	103 3 1302 606 11	+PTS-2 M2.6x6 SWITCH POWER	2
	141 2 3529 070 00	SPACER	2
	141 2 8119 019 00	COUNTER	1
	101 3 1302 605 11	+PMS M2.6x5 ASSY SELECT BUT	4
	101 3 1303 010 11	+PMS M3.0x10	2
	110 3 3203 000 82	TW-B M3.0 COUNTER	2
	141 2 5649 021 00	BELT COUNTER	1
	101 3 2502 012 11	CMS M2.0x12 SPG ADJUST HEAD	1
	110 3 1102 000 11	SRW M2.0 SPG ADJUST HEAD	1
	141 2 8519 045 00	SPG ADJUST HEAD	1
	R-A71882	CASSETTE CASE ASSY	1
	R-A71883	BUTTON SELECT ASSY	1
	R-S0814	R/P HEAD	1
	R-S07172	E HEAD	1
		SCREW, PAN HD. 2 x 4	3
		SCREW, PAN HD. 2 x 6 HEAD MTG.	1

EXPLODED VIEW (Mechanism)


+PMS 2.6x5
SW-2 2.6φ
FW 4φ
* 0 7439 003 00 Assy Hld Cst Case R
* 2 3529 018 00 Spacer Caset Case
For Example
* =141
* 0 3119 051 00 → 141 0 3119 051 00 0
R-A71882 Assy Caset Case
* 2 7419 033 00 Lever Caset Case L
* 2 8519 067 00 Spg Cst Case Lever B
* 0 7439 004 00 Assy Hld Cst Case
* 2 3529 018 00 Spacer Caset Case
SW-2 2.6φ
* 0 5319 008 00 Assy Reel Plate
* 2 5369 004 00 Cap Reel Plate
* 0 5319 001 00 Assy Reel Plate
+PMS 2.6x5
* 2 4219 037 00 Screw Plate Brake
* 2 8529 005 00 Spg Brake Sd
* 2 7139 004 00 Brake Plate
E-2
* 2 8519 224 00 Spg Lever Stop
* 0 7419 037 00 Assy Lever Stop
* 2 4219 037 00 Screw Plate Brake
* 0 5419 019 00 Assy Pinch Roller
* 0 7319 016 00 Assy Sub Pl Pushout
+PMS 2x4
* 2 3769 007 00 Spacer Head
E-3
* 2 7419 108 01 Lever Stop
* 0 7319 069 00 Assy Base Slide
* 2 4219 046 00 Screw Base Slide
* 2 8519 098 00 Spg Pinch Roller
R-A71883 Assy Button Select
* 2 3529 070 00 Spacer
* 2 8119 019 00 Counter
+PTS-2 2.6x6
* 2 8539 017 00 Spg Interlock Lever
W 2x7x0.3
* 0 5729 010 00 Assy Holder Capstan
* 2 3529 070 00 Spacer
* 2 8419 006 00 Interlock Lever
E-1.5
* 2 4539 002 00 Washer Spindle
* 0 3119 061 00 Assy Chassis
* 2 7439 001 00 Stopper Slide Base
* 2 8519 062 00 Spg Sl Base Stopper
* 2 7529 052 00 Sft Sl Base Stopper
TW-B 3φ
+PMS 3x10
+PMS 2.6x5
* 2 7319 037 00 Lock Cassette Case
+PMS 2.6x5
+PMS 3x10
+PMS 2.6x5
* 2 4219 042 00 Screw
* 2 4569 043 00 Washer
* 2 5649 021 00 Belt Counter
* 2 4179 001 00 Nut
* 2 8139 002 00 Pulley Counter
* 2 8519 064 00 Spg Caset Case Lock
* 0 7319 022 00 Assy Arm Slide Base
* 2 8519 009 00 Spg Slide Base
E-1.5
* 2 7319 009 00 Slide Arm Pwr SW
* 2 8519 012 00 Spg Slide Arm Pwr SW
* 0 5519 002 00 Assy Idler
E-2
* 2 8519 017 00 Spg Idler
* 2 8259 004 00 Roller Idler Base
+PTS-2 2.6x6
* 0 7319 003 00 Assy Base Idler
4 2319 700 10 Switch Power
* 2 8519 018 00 Spg Rewind Roller
* 2 4219 038 00 Screw Arm Rew Roller
* 0 7319 004 00 Assy Arm Rew Roller
* 0 5519 007 00 Assy Rewind Roller
W 2x4x0.2
E-1.5
E-2
* 2 8519 191 00 Spg Lever R P SW
* 2 8429 007 00 Lever RP SW
+PTS-2 2.6x6
* 0 7419 114 00 Assy Lever SW
E-2
* 0 5519 001 00 Assy Take up Pulley
* 2 8519 013 00 Spg Take up Pulley
* 0 3519 008 02 Assy Sup Flywheel
+PTS-2 2.6x6
4 5279 704 41 Motor
* 0 5219 013 00 Assy Flywheel
* 2 5649 002 01 Square Driving Belt
W 2x7x0.3
* 2 4179 001 00 Nut
* 2 4569 043 00 Washer
+PMS 2.6x5
* 0 5729 002 00 Assy Bush Capstan
* 2 4539 067 00 Washer

TOP VIEW

BOTTOM VIEW

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